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Atty. Dkt. No. AMAT/6089.Y2/PPC/ECP/RKK

IN THE CLAIMS:

1. (Previously Presented) Semiconductor processing apparatus for electro-chemical deposition on a semiconductor substrate, comprising:

an annular conductive body in the semiconductor processing apparatus, the annular conductive body adapted to support the semiconductor substrate and having at least one pin receiving pocket formed therein; and

at least one electrical contact pin having a portion brazed in the receiving pocket, the contact pin adapted to electrically bias the semiconductor substrate.

2. (Previously Presented) The semiconductor processing apparatus of claim 1, wherein the contact pin is an annular ring.

3. (Previously Presented) The semiconductor processing apparatus of claim 1, wherein the contact pin is a plurality of arc segments.

4. (Previously Presented) The semiconductor processing apparatus of claim 1, wherein the contact pin is a plurality of cylindrical posts.

5. (Previously Presented) The semiconductor processing apparatus of claim 1, wherein the conductive body further comprises:

a first surface;

a shoulder coupled to the first surface; and

a substrate support surface extending inward from the shoulder and supporting the electrical contact pin thereon, the substrate support surface and shoulder defining a substrate receiving pocket.

6. (Previously Presented) The semiconductor processing apparatus of claim 1, wherein the contact pin is comprised of platinum or platinum alloy.

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7. (Previously Presented) The semiconductor processing apparatus of claim 1 further comprising:
a dielectric covering at least partially encapsulating the conductive body.
8. (Previously Presented) The semiconductor processing apparatus of claim 7, wherein the contact pin further comprises:
a portion extending from the conductive body and having a contact surface free from the dielectric covering.
9. (Previously Presented) Semiconductor processing apparatus or electro-chemical deposition on a semiconductor substrate, comprising:
an annular conductive body in the semiconductor processing apparatus, the annular conductive body adapted to support the semiconductor substrate and having at least one pin receiving slot formed therein;
at least one electrical contact pin having a portion brazed in the receiving slot, the contact pin adapted to electrically bias the semiconductor substrate proximate the semiconductor substrate's perimeter; and
a first seal disposed inward of the electrical contact pin and providing a seal with the conductive body.
10. (Previously Presented) The semiconductor processing apparatus of claim 9, wherein the contact pin is an annular ring.
11. (Previously Presented) The semiconductor processing apparatus of claim 9, wherein the contact pin is a plurality of arc segments.
12. (Previously Presented) The semiconductor processing apparatus of claim 9, wherein the contact pin is a plurality of cylindrical posts.
13. (Previously Presented) The semiconductor processing apparatus of claim 9, wherein the conductive body further comprises:

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a first surface;

a shoulder coupled to the first surface;

a substrate support surface extending inward from the shoulder and supporting the electrical contact pin thereon, the substrate support surface and shoulder defining a substrate receiving pocket; and

an inner ring surface disposed radially inward of the substrate support surface, the inner ring surface in sealing communication with the first seal.

14. (Previously Presented) The semiconductor processing apparatus of claim 9, wherein the contact pin is comprised of platinum or platinum alloy.

15. (Previously Presented) The semiconductor processing apparatus of claim 9 further comprising:

a dielectric covering at least partially encapsulating the conductive body.

16. (Previously Presented) The semiconductor processing apparatus of claim 15, wherein the contact pin further comprises:

a portion extending from the conductive body and having a contact surface free from the dielectric covering.

17. (Previously Presented) Semiconductor processing apparatus for electrochemical deposition on a semiconductor substrate, comprising:

an annular conductive body in the semiconductor processing apparatus, the annular conductive body adapted to support the substrate and having at least one pin receiving pocket formed therein;

a dielectric covering at least partially encapsulating the conductive body; and

at least one electrical contact pin having a portion brazed in the receiving pocket, the contact pin adapted to electrically bias the semiconductor substrate proximate the semiconductor substrate's perimeter and having an exposed portion extending from the conductive body and having a contact surface free from the dielectric covering.

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18-36. (Cancelled)

37. (Previously Presented) The semiconductor processing apparatus of claim 1, wherein the contact pin includes a plurality of posts.

38. (Previously Presented) The semiconductor processing apparatus of claim 9, wherein the contact pin includes a plurality of posts.

39. (Previously Presented) An apparatus for electro-chemical deposition on a substrate, comprising:

- a processing cell;

- an annular conductive body disposed on the processing cell, made of a first metal and having a substrate seating surface formed on a top surface thereof and adapted to support the substrate, the substrate seating surface disposed between a downward angled shoulder of the conductive body and an inner diameter of the conductive body and having at least one pin receiving recess formed therein;

- at least one electrical contact pin made of a second metal different from the first metal and selected from the group consisting of platinum and platinum alloys, the at least one electrical contact pin having a base portion brazed in the receiving recess and an upper exposed portion extending from the conductive body and adapted to electrically bias the substrate proximate the perimeter of the substrate;

- a dielectric covering at least partially encapsulating the conductive body;

- an electrical lead coupled to a power source and the conductive body through the dielectric covering in order to supply power to the at least one electrical contact pin;

- a seal coupled to the contact ring proximate the inner diameter and disposed inward of the electrical contact pin, the seal adapted to provide sealing contact with the substrate;

- an anode disposed on the processing cell; and

- an electroplating solution supply that fluidly connects the anode and a plating surface of the substrate.

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40. (Previously Presented) An apparatus for electro-chemical deposition on a substrate, comprising:

a processing cell;

an annular conductive body in the processing cell, the annular conductive body made of a first metal and having a substrate seating surface formed on a top surface thereof and adapted to support the substrate, wherein the substrate seating surface is disposed between a downward angled shoulder of the conductive body and an inner diameter of the conductive body and having at least one pin receiving recess formed therein;

at least one electrical contact pin made of a second metal different from the first metal and selected from the group consisting of platinum and platinum alloys, the at least one electrical contact pin having a base portion brazed in the receiving recess and an upper exposed portion extending from the conductive body and adapted to electrically bias the substrate proximate the perimeter of the substrate;

a dielectric covering encapsulating the conductive body;

an anode disposed on the processing cell; and

an electroplating solution supply that fluidly connects the anode and a plating surface of the substrate.